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ABSTRACT

The purpose of this paper was to show how women medical students are socialized into their student role. The sample group was made up of 24 groups of six medical students, up to half of whom were women. The data were collected from responses to a questionnaire administered to the members of each group at the beginning of the semester and again at the end. The findings indicated that a solo woman poses the greatest threat to the security and stability of a formerly all-male group, and as such is subject to intense peer pressure to assume a low profile. A group with several women poses a somewhat different situation. Two women in a group do not necessarily form a supportive dyad, as the men in the group may succeed in dividing the women thereby minimizing the threat. Groups with three women seem to offer the greatest potential for self-actualization by women. The authors recommend that faculty responsible for forming mixed-sex groups of medical students do so, where feasible, in approximately equal numbers of men and women. (Author/PC)

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"The Socialization of Freshwomen Medical Students"

by Harold H. Frank, Ph.D. and Aaron H. Katcher, M.D.[1*]

INTRODUCTION

An old riddle recently enjoying new popularity poses the following problem: a man and his son are involved in an automobile accident. The father is killed, and the injured son is rushed to the hospital and into emergency surgery. The doctor called upon to operate takes one look at the boy, and announces: "I cannot perform surgery on this patient, he's my son!" How can this be? (See footnote 2 for the answer.)

The point of this conundrum is to present an example of conditioned thinking regarding women in the professions, the medical profession in particular. Traditionally considered the province of the male of the species, (Merton, 1957) the study of medicine today is much more sexually integrated than it was even three years ago. Still, women medical students--and women doctors--will find themselves a conspicuous professional minority for years to come. Women may no longer be confronted with a sexual barrier when applying to medical school, but once admitted may become the victims of their male counterparts' traditional and outmoded "men only" orientation.

PURPOSE AND METHOD

The purpose of this paper is to show how women medical students are socialized into their student role. Considerable research has been conducted on the problems faced by women seeking to enter the professions (Epstein 1970, Soule and Standley 1973, Theodore 1971) and on the difficulties they encounter in institutions of higher learning (Lever and Schwartz 1971), but

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*The authors wish to acknowledge the very considerable contribution of Daniel Osborne, Wharton Graduate School, in the preparation and analysis of the data presented in this paper.

comparitively little attention has been directed toward peer perceptions, and the means through which they become translated into socialization patterns. In one recent study, Wolman and Frank (1975) reported observations made of three groups of psychiatric residents and three groups of master's candidates in business administration, each containing solo women. They reported that those women who sought positions of influence by competing openly with men were subjected to intense pressure and ultimate exclusion from the mainstream of group interaction, while those who avoided direct competition were incorporated within the group structure. To investigate the problem more fully we studied twenty-four groups of six medical students, one to three of whom were women, at the Medical School of the University of Pennsylvania. The setting was a gross anatomy laboratory in which each group performed various dissections on a prepared laboratory specimen throughout the semester.

The data for our study came from the responses to a questionnaire administered to the members of each group at the beginning of the semester, and again shortly after its completion. Each student was asked to complete one questionnaire for each member of the dissection team including him/her self. Thus, a group of six students would generate thirty-six (6x6) questionnaires on each occasion.

A Model of Group Behavior

The questionnaire was developed by Robert Freed Bales of the Department of Social Relations at Harvard University. It came about as a result of his pioneering work in interaction process analysis (IPA), a method of classifying interactions between members of groups based on how

they communicate with each other rather than what they communicate.[3] Building on data collected through IPA, Bales constructed a model of group behavior by placing the dimensions of dominance, friendliness and orientation toward the task in orthogonal relationship (i.e. at right angles to one another) to form a three-dimensional space. Each dimension or axis has two end points and a common center. Taken one, two or three at a time, the end points of the axes can be combined to produce twenty-seven separate positions in the space. (See Figure 1 below.)

Because of copyright, Figure 1 has been removed from this Document.

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For ease of conceptualization, Bales named the dimensions for their position in the space. Thus dominance is upward, submission downward; friendliness positive and unfriendliness negative, following the convention for the horizontal axis in mathematical graphs; and task-orientation forward, counter or non task-orientation backward.

Aided by his student and research assistant, Arthur S. Couch,[4] a series of factor analyses were performed which resulted in separate social psychological profiles for each of the twenty-seven positions in the space.[5] These were given descriptive titles, such as "Type U: Toward Material Success and Power, Type P: Toward Equalitarianism, Type UP: Toward Social Success," and so on.

Questions associated with each type (with the exception of "Type AVE," which is located at the zero point, or intersection of the three axes), were formulated into a twenty-six item questionnaire (see Exhibit 1 below).

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* Insert Exhibit 1 Here *
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Hypotheses

While the principles underlying the group space are statistically based,[6] our primary concern was with the practical application of the theory and the resultant spatial positioning of the women in the groups. Based on a study by Wolman and Frank entitled, "The Solo Woman in a Professional Peer Group (1975)," we hypothesized that solo women would succumb to pressures to be friendly, task-oriented and non-assertive, behaviors associated with long standing stereotypes for female behavior, rather than face exclusion from the matrix of social interaction within the dissection teams if they did not. Further, we hypothesized that women in groups containing more than one woman would be resistent to such pressures, and would sustain a higher level of assertive behavior than their solo counterparts.

RESULTS

We administered the Bales questionnaires (form A)[7] at the start and at the end of the semester to twenty-four six-person anatomy dissection groups. Twelve contained only one woman eight two women, and the remaining four three women.[8]

Table 1 shows the 27 Bales types and the percentages of men and women found in each one at T_1 and T_2. At T_1, 62% of the 104 men and 45% of

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the 40 women were rated UPF; 8.5% of the men and 15% of the women were described as UP. Also at T_1, 5.5% of the men and 17% of the women received the PF rating, and 7.6% of the men and 10% of the women were seen as type DPF. In other words, at T_1 over 80% of the men and 70% of the women were perceived as "dominant;" 90% of the men and 100% of the women were perceived as "friendly," and 82% of the men and 72% of the women were considered "task-oriented." In sum the categories of UP, UPF, UPB, PF and DPF accounted for 86% of all men and 95% of all women at T_1.

At T_2, 42% of the men and women were perceived as being type UPF; 13% of the men and 5% of the women, in a little about-face, were seen as type UP, and 13% of both the men and women were considered UPB. In the DPF category, both men and women maintained the percentages they posted at T_1: 7.6 and 10%, respectively. To summarize, at T_2 77% of the men and 69% of the women were considered "dominant," 84% of the men and 92% of the women were perceived as "friendly," and 60% of the men and 63% of the women were regarded as "task-oriented." Table 2 shows the aggregate percentage on these three dimensions for men and women for each administration of the questionnaire.

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* Insert Table 2 Here *
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In general, the group members, who were 70% male, occupied the upward, positive forward part of the space at T_1 and T_2. A larger proportion of men than women were located upward in the space and there was no significant change in these proportions across the time periods. Conversely, a larger proportion of men than of women were perceived in the positive part of the space, but there was a slightly significant drop in the proportions

located there for both groups at T_2. A significantly smaller proportion of women than of men were perceived as task-oriented at T_1, while at T_2 the differences between men and women in task-orientation were not significant--a result of a significant drop in task-orientation by the males, and a moderately significant drop by the females.

What Table 2 does not show is the direction and magnitude of the change in the group members levels of dominant (U/D), friendly (P/N) and task oriented (F/B) behavior as a function of the number of women in a group. To make this determination we divided the twenty-four groups into three sections based on the number of women they contained. The twelve groups in Section 1 each have one woman, the eight in Section 2 have two women, and the four in Section 3 have three women. Exhibit 3 shows our findings.

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* Insert Table 3 Here *
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We found the men in the groups in Section 1 were generally perceived as type UPF at both T_1 and T_2, as shown under the sub-heading "SOLO WOMAN" under the general heading "POSITION." However, the general movement of the men was actually in the direction of greater dominance and less task-orientation, with no change in friendliness. The solo women, meanwhile, were also generally perceived as type UPF at both T_1 and T_2, but their movement was in the direction of less dominance and more task orientation, again with no change in friendliness. In sum, the solo women and the men in their groups moved in <u>opposite directions</u> on the U & F axes but remained within the upward, positive forward part of the space.

In Section 2 groups, the men were again perceived as type UPF at T_1 and T_2, but their movement was actually in the DNB direction; that is, toward submissiveness, unfriendliness, and non task-orientation. The two women in each of the eight groups in Section 2 were seen as UPF at T_1, but as UPB at T_2. Their movement, like that of the men in their groups, was regressive across all three dimensions. They became less dominant, more unfriendly, and considerably non task-oriented.

Finally, we come to Section 3: the men are once again perceived as type UPF at T_1, and at T_2. Their general movement, however, is toward greater dominance, less friendliness, and greater task-orientation. Table 4 below summarizes these findings.

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Solo Women

Our hypothesis that dominant behavior on the part of a woman would lead to her isolation from the group is partly supported by evidence from our study. Using the mean level of the males' dominance as a reference point, we found that relatively more dominant behavior on the part of the females led to exclusion from the group (i.e. deviant or isolate status), whereas relatively less dominant behavior led to inclusion. This was determined by counting the number of linkages to other members in the group space. In only four of the 24 groups we studied did the level of male-female interaction increase over time. These four groups (Groups 2, 5, 8, and 20, see Appendix I) each had one woman as a member. The woman in these groups was generally perceived at T_1 as type UP and at T_2 as type UPF. Her movement over time was slightly in the direction of greater dominance and strongly toward

task-orienation. The men in these groups were perceived as UPF at both T_1 and T_2, and their movement was toward somewhat more friendliness and strongly away from task-orientation.

That these groups did indeed maintain and increase male-female interaction may be explained by the fact that, on average, the men in them were perceived as being much more dominant than their women colleagues, at both T_1 and T_2. At T_1, the women were perceived as being more friendly and less task-oriented than the men; at T_2, the women were perceived both as somewhat friendlier and more task-oriented than the men. The dominance issue, then, seems to be the key to close male-female interaction. It appears that greater male-female interaction is possible so long as there is a man in the group who is more dominant than the group's women. Consider these representative graphs, depicting the interaction in the groups we have been discussing (see Appendix I, Groups 2, 5, 6, 8, 20, and 34).

Multiple Women

In those groups with multiple women, however, male-female interaction did not increase significantly; in fact, it lessened. Referring again to Exhibit 4, we see that both men and women in the two-women groups tended to become less dominant, less friendly, and less task-oriented over time. Analysis at T_1 shows that on average, the men were more dominant and more task-oriented than the women, while the women were friendlier. At T_2, the men were still more dominant, but the women were friendlier and more task-oriented than the men. It appears that the presence of two women in a group makes for an unstable situation, as male-female, male-male and female-female interaction all broke down. (Group 3 from Section 2 is representative of their phenomenon, see Appendix I.)

In groups with three women, both men and women became more dominant over time. The women became less friendly and more task-oriented, while the men became less task-oriented. Analysis again reveals that on average, men were perceived as being considerably more dominant and less friendly at both T_1 and T_2, while the women became more task-oriented at T_2. Although male-male and male-female interactions suffered net decreases, female-female interactions increased. It appears that the addition of a third woman to a group provides the impetus for solidarity among the women and the basis to function independently of the men. (Group 36--Appendix I, illustrates this situation quite well.)

SUMMARY

To summarize our findings briefly: a solo woman poses the greatest threat to the security and stability of a formerly all-male group, and as such is subject to intense peer pressure to assume a low profile. If she does this, the solo woman stands a good chance of being integrated into the group. If she persists in showing what are perceived as assertive and non task-oriented behaviors, she will be forced into deviant[9] or isolate status. (An example of deviancy is given in Groups 1 and 14; Groups 5, 8, 18 and 37 provide examples of isolation--Appendix I.)

A group with multiple women poses a somewhat different situation. Two women in a group do not necessarily form a supportive dyad resistent to the imposition of male-determined norms. The men in the group may succeed in dividing the women thereby minimizing the threat they pose to a caste-like status hierarchy based on maleness.

Groups with three women seem to offer the greatest potential for self-actualization by women since the formation of a sub-group relatively resistent to male peer pressure is likely. Equal numbers of men and women seem to force acceptance of women by the men either on an equal, or "separate but equal" basis.

CONCLUSION

We conclude by recommending that faculty responsible for forming mixed-sex groups of medical students do so in approximately equal numbers of men and women. A solo woman too often is made the focus of male hostility as a result of her determination to do as good a job as a man expects to do. Her frustration is unfortunate and unnecessary. However, a change in men's attitudes towards women competitors, and an increase in the numbers of women in medicine will both take time to come about. Until then, our advice to women who find themselves in untenable positions is to decide which is the easier pill to swallow: withholding assertive behavior to maintain peer membership, or expressing assertiveness and facing the prospect of a deviant or isolate membership status.

In pursuing this research we have been greatly influenced by Margaret A. Campbell, M.D., and her pioneering work on discrimination towards women in medical schools aptly titled: Why Should A Girl Go Into Medicine (1973). In the foreword she states:

> We all know that discrimination against women exists, although we sometimes deny that knowledge because discrimination is painful to experience. Trying to change the sources of discrimination is a long, hard process,

> and in the meantime we must keep from being destroyed or poisoned as a consequence of what some people would have us think about ourselves. I believe the first three lines of defense are (1) information about the specific forms of discrimination in any situation, so we are never taken by surprise, (2) an understanding of ourselves and how we react to discriminatory attitudes and practices, and (3) strong support of each other, in formal or informal networks (p. i).

We hope that this research will help women maintain and develop their gender identity while they acquire the social and technical skills necessary to become competent and productive physicians.

FOOTNOTES

1. Dr. Frank is Assistant Professor of Management, the Wharton School and Assistant Professor of Group Dynamics in Psychiatry, the School of Medicine. Dr. Katcher is Associate Professor of Psychiatry, the School of Medicine and the School of Dental Medicine, University of Pennsylvania.
2. The doctor is the boy's mother.
3. The IPA categories are: 1. Seems Freindly, 2. Dramatizes, 3. Agrees, 4. Gives Suggestions, 5. Gives Opinion, 6. Gives Information, 7. Asks for Information, 8. Asks for Opinion, 9. Asks for Suggestion, 10. Disagrees, 11. Shows Tension, 12. Seems Unfriendly. See pp. 96-97 of the Bales (1970) text for tables showing the relationship between the categories and positions in the group space.
4. Bales (1970), Acknowledgements, p. x.
5. Bales (1970), Part II: Types of Group Roles and Their Value-Directions, pp. 189-388.
6. Bales (1970), Appendix 5, p. 492.
7. Bales (1970), p. 6. Two other versions of the questionnaires are included within the text (pp. 12-13), these can be combined or used separately to locate persons in the space (see Chapter 3: A Spatial Model of Group Structure, pp. 30-50).
8. We are greatly indebted to Dr. Jean Piatt, Professor of Anatomy at the University of Pennsylvania School of Medicine for his help in constructing the dissection teams along the gender lines we specified.
9. The term deviant is used here to refer to a membership role that is perceived to depart in some, but not all respects with the consensus among the members of appropriate member behavior.

10. The numbers used to identify groups are those found on the dissection tables, and should not be confused with the total number of groups studied, which was twenty-four.

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8. Wolman C. and Frank H., "The Solo Women in a Professional Peer Group," American Journal of Orthopsychiatry, January 1975, 45 (1), 164-171.

		U	UP	UPF	UF	UNF	UN	UNB	UB	UPB	P	PF	F	NF	N	NB	B	PB	DP	DPF	DF	DNF	DN	DNB	DB	DPB	D	AVE
T_1	M_1		8.5	62	3	1	2	2		2		5.5							2	7.6	1					3		
	W_1		15	45						10		17							2	10						2		
T_2	M_2		13	42	1	2	1	4	1	13	1	2	2	1			1	2	2.8	7.6	1	2				1		
	W_2		5	42	3	5				13		3						8	5	10						5		

TABLE 1: Comparison Between Men and Women, T_1 and T_2, Across the Twenty-Seven Positions in the Bales Space

(all figures in percent--horizontal totals = 100%)

	DOMINANT (U/D)		FRIENDLY (P/N)		TASK-ORIENTED (F/B)	
	Male	Female	Male	Female	Male	Female
T_1	80	70	90	100	82	72
T_2	77	69	84	92	60	63

TABLE 2: Aggregate Distribution of Males and Females in the Dominant, Friendly and Task-Oriented Portion of the Group Space for T_1 and T_2.

(all figures in percent)

TYPE OF GROUP	MOVEMENT ($T_1 \longrightarrow T_2$)							POSITION ($T_1 \longrightarrow T_2$)				
	Solo Woman			Multiple Women				Solo Woman		Multiple Women		
	U	P	F		U	P	F	T_1	T_2		T_1	T_2
MEN	+	0	-	2	-	-	-	UPF	UPF	2	UPF	UPF
				3	+	0	-			3	UPF	UPF
WOMEN	-	0	+	2	-	-	-	UPF	UPF	2	UPF	UPF
				3	+	-	+			3	UPF	UPF

TABLE 3: Comparison Across the Bales Axes By Number of Women in a Group for Men and Women $T_1 \longrightarrow T_2$.

PERCEPTIONS OF MEN AND WOMEN: $T_1 \longrightarrow T_2$ ( ) = women			
	DOMINANCE (U/D)	FRIENDLINESS (P/N)	CONCERN FOR TASK (F/B)
12 Groups; 1 woman each	+ (-)	0 (0)	- (+)
8 Groups 2 women each	- (-)	- (-)	- (-)
4 Groups; 3 women each	+ (+)	0 (-)	- (+)

TABLE 4: Movement on the Bales Axes for Men and Women by Number of Women in a Group

Appendix 1*

Graphs Showing Group Interaction T_1 and T_2: U/D (Dominance/Submission) and F/B (Task-Oriented/Non Task-Oriented) Axes

Group Number	Page Number T_1	T_2
1	1	2
2	3	4
5	5	6
6	7	8
8	9	10
14	11	12
18	13	14
20	15	16
34	17	18
37	19	20

*Page numbers refer to the pages of this appendix only.

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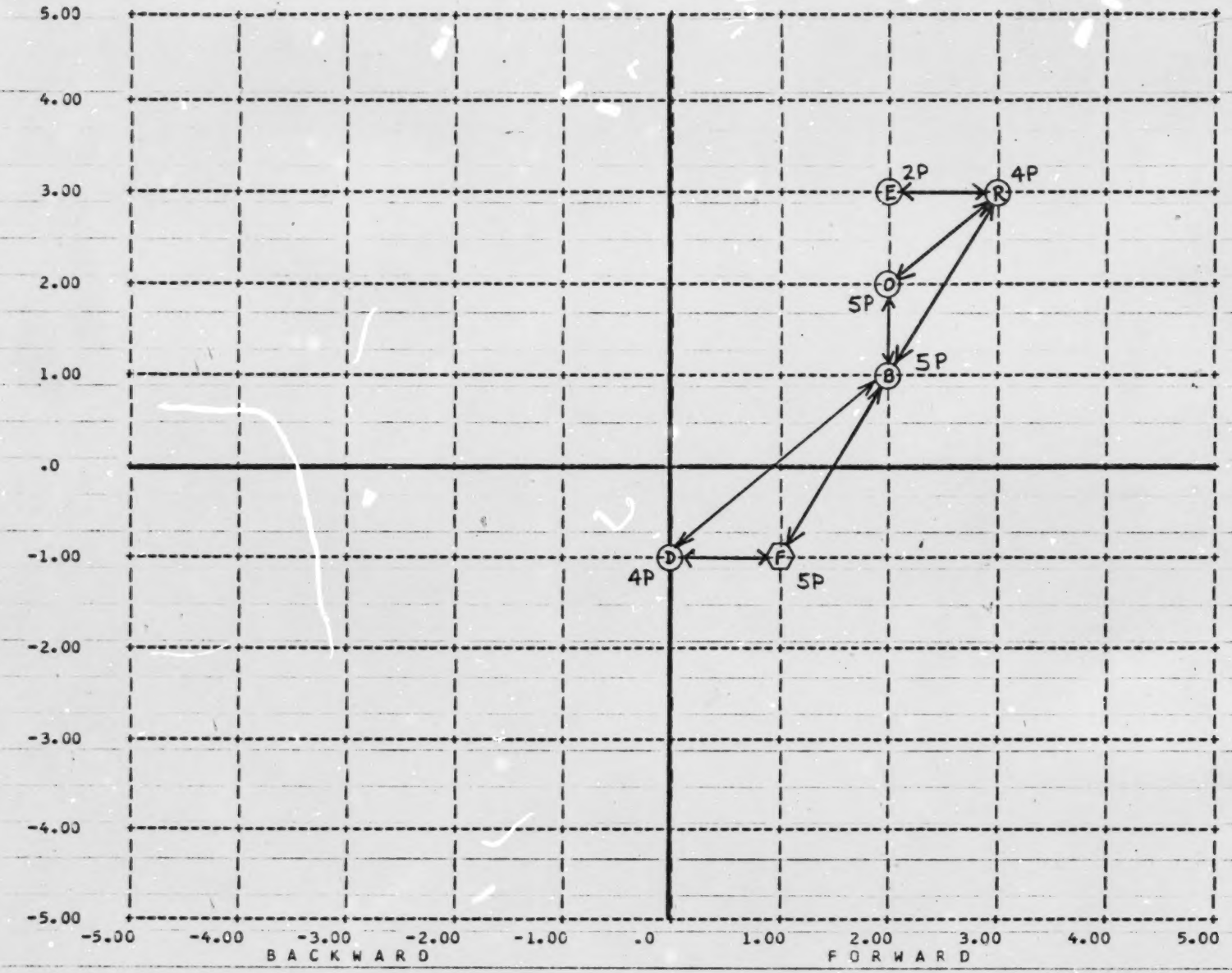
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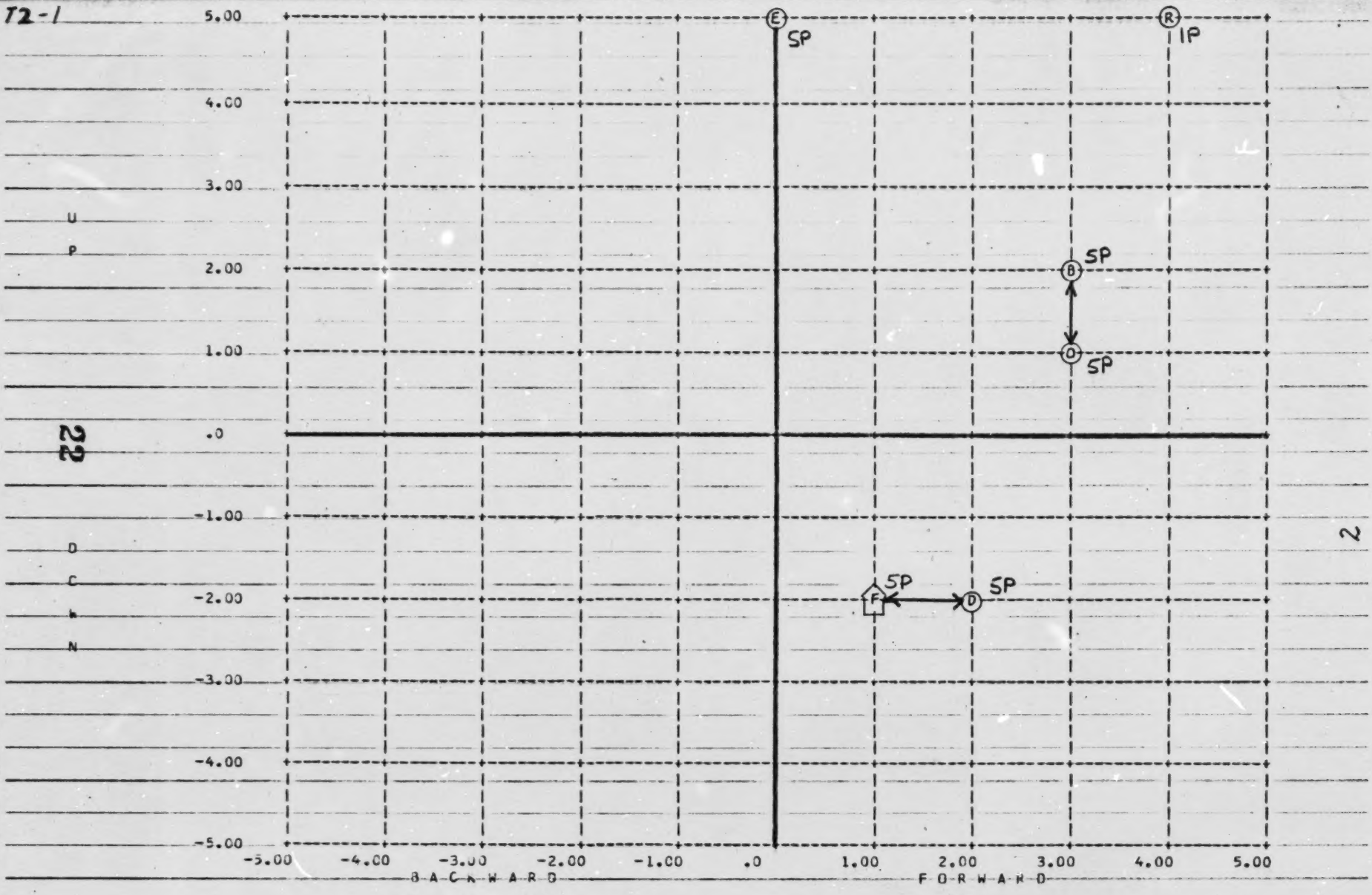

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Interaction Network:

F → D
E
O → B
D → F
R
B → O

T1-2
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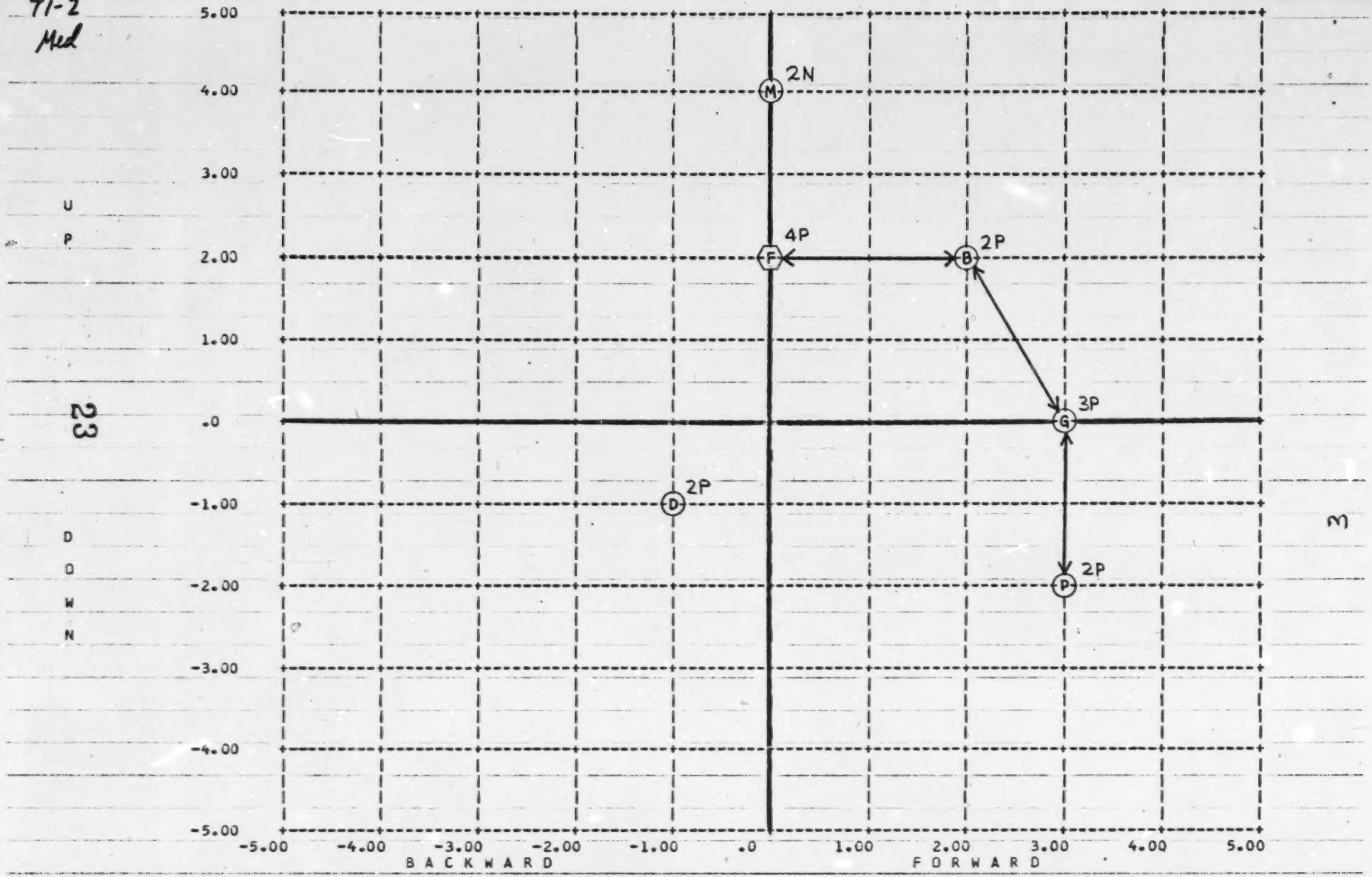
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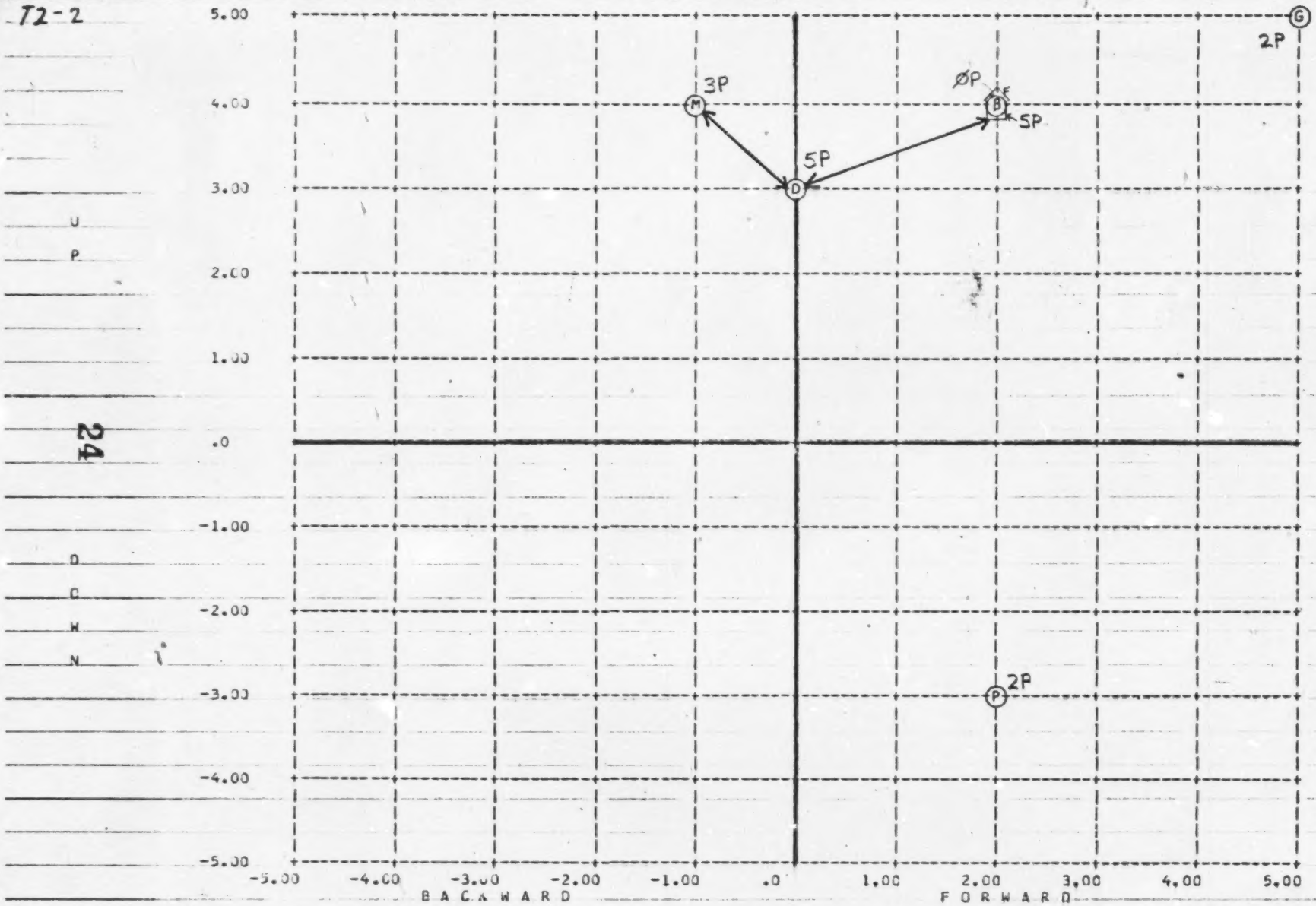

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Interaction Network: M → D
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D → B, M
B → B
B → D

TI-5
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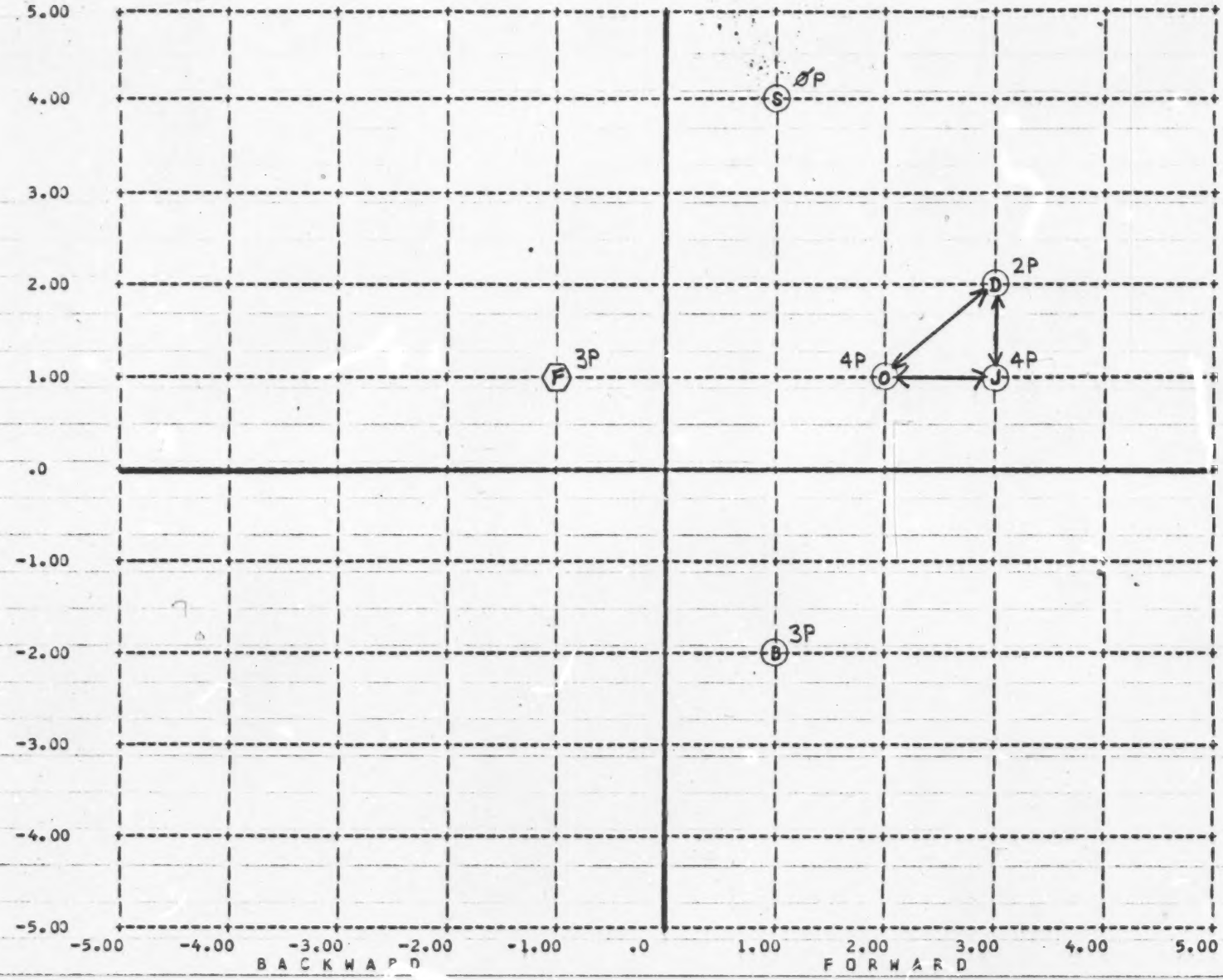
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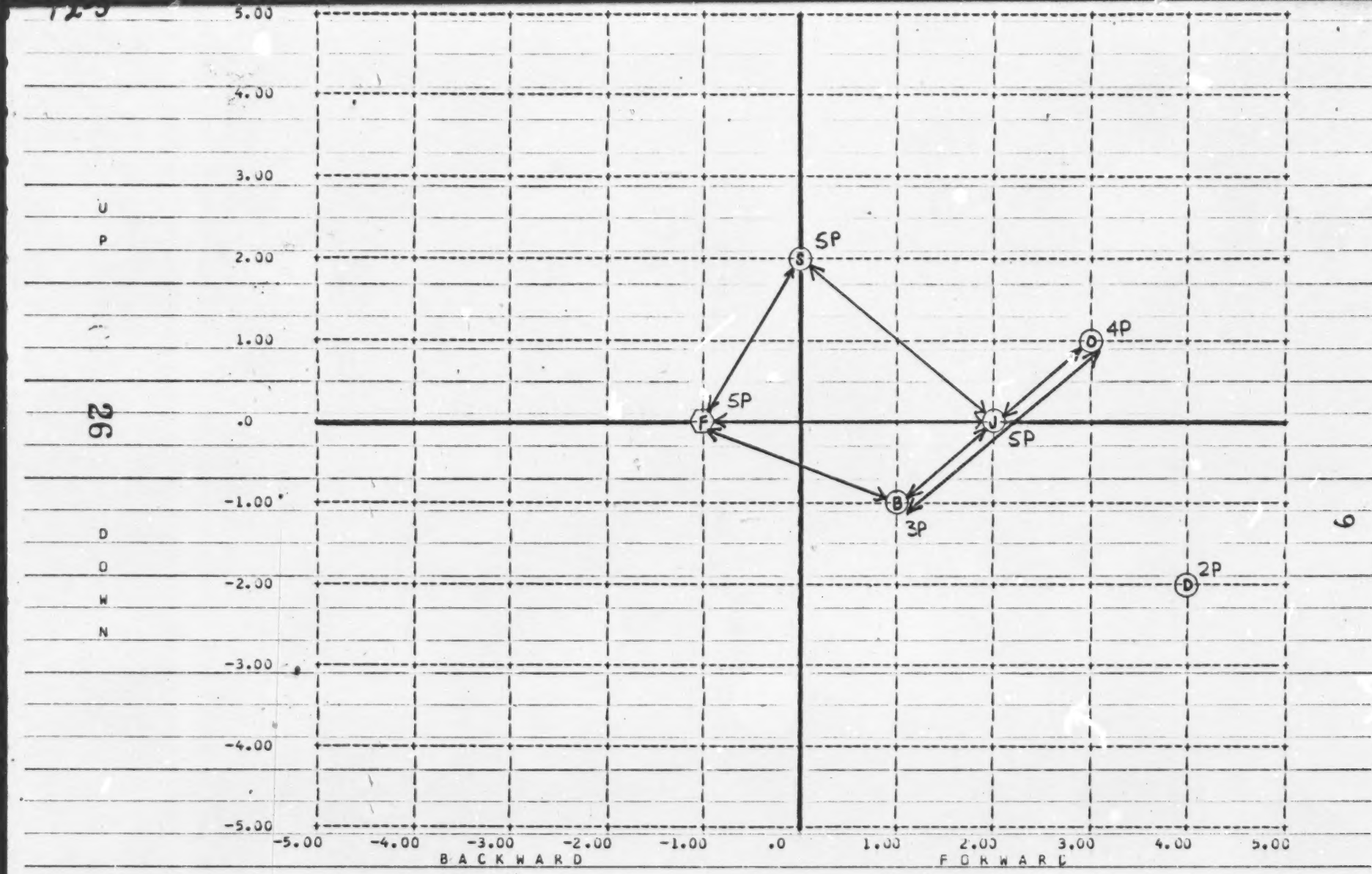
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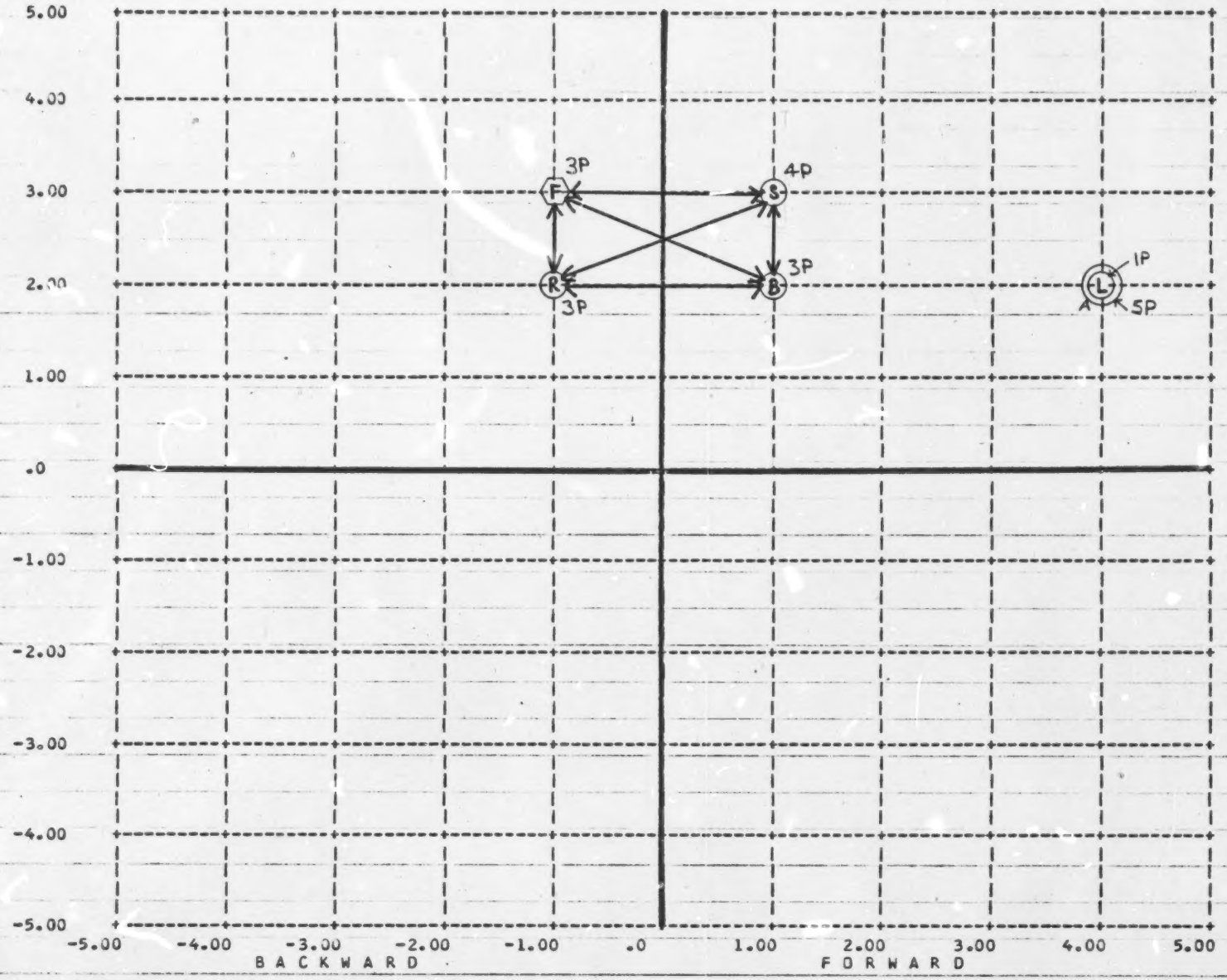
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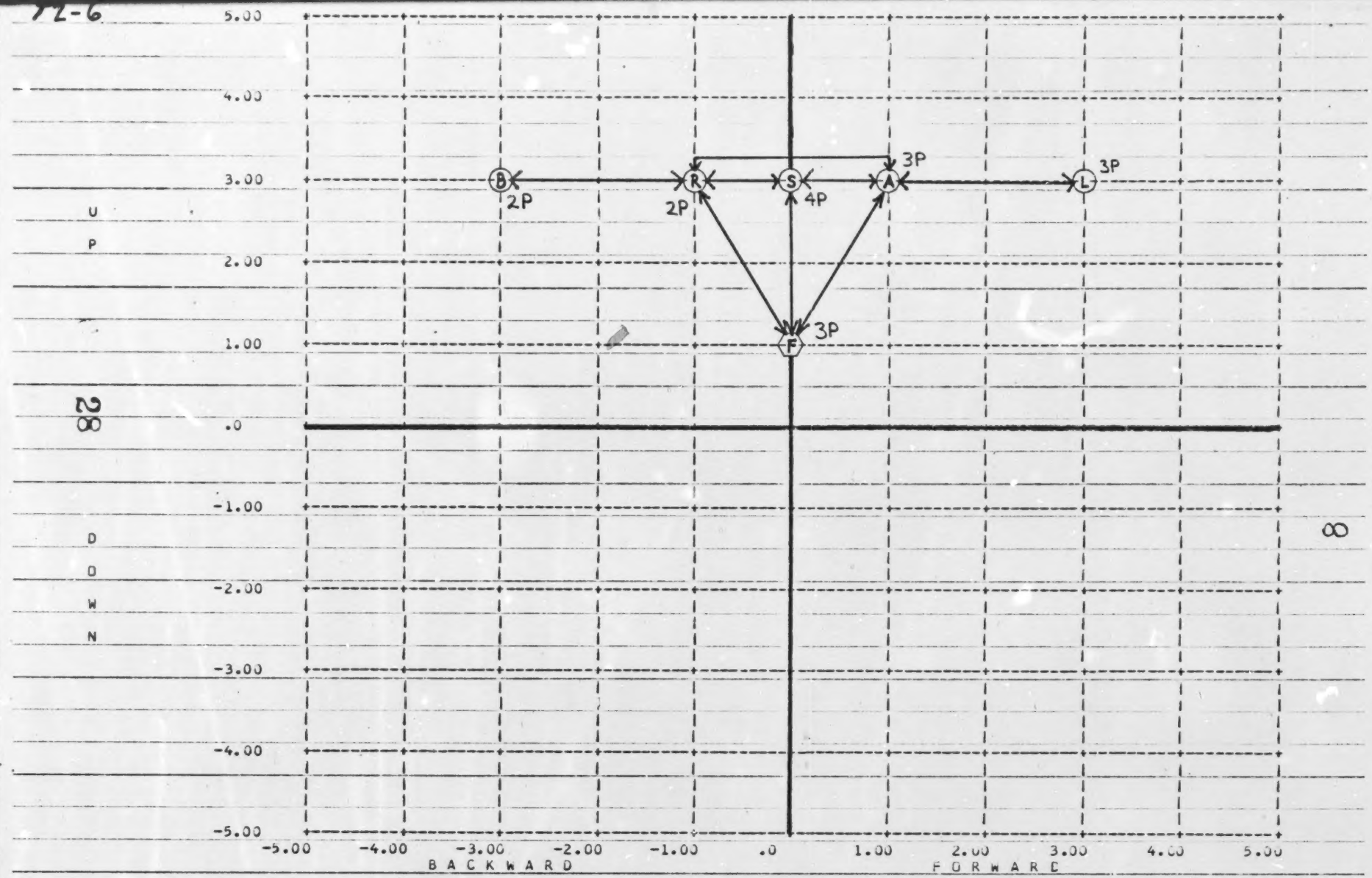
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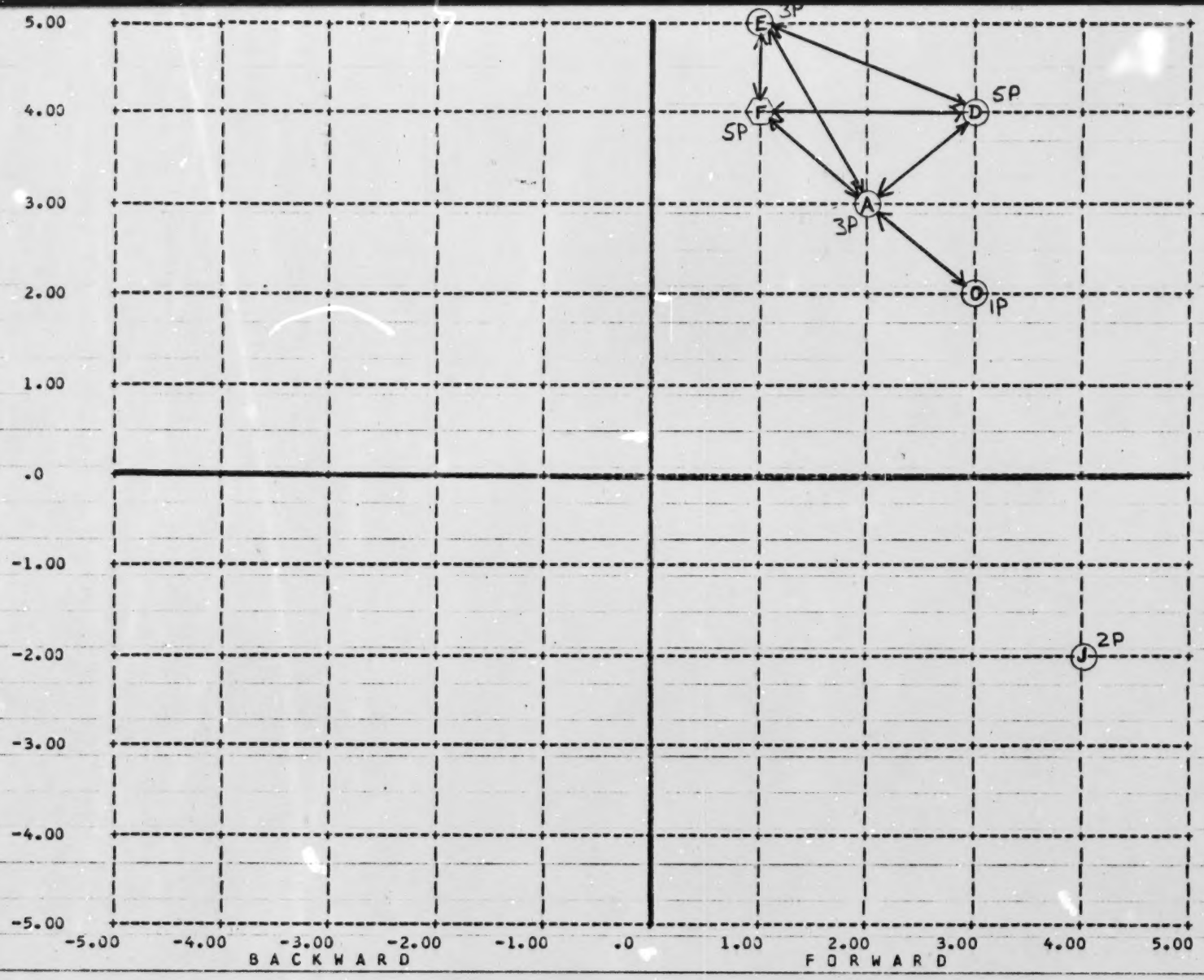
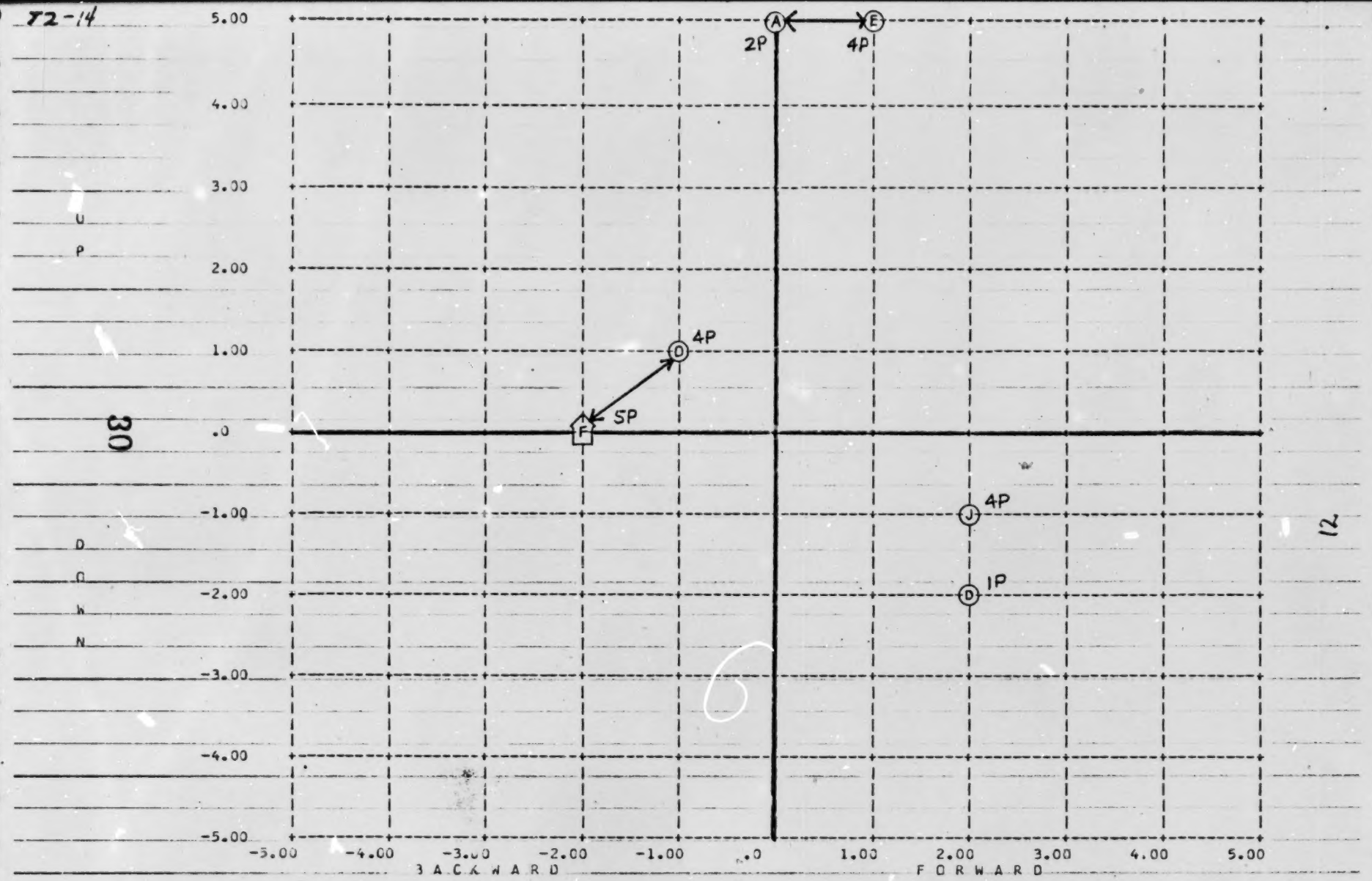
11-14
Mel


5.00
4.00
3.00
2.00
1.00
.0
-1.00
-2.00
-3.00
-4.00
-5.00
UP
DOWN
-5.00 -4.00 -3.00 -2.00 -1.00 .0 1.00 2.00 3.00 4.00 5.00
BACKWARD
FORWARD
E
3P
F
5P
D
5P
A
3P
O
1P
J
2P

62

T2-14

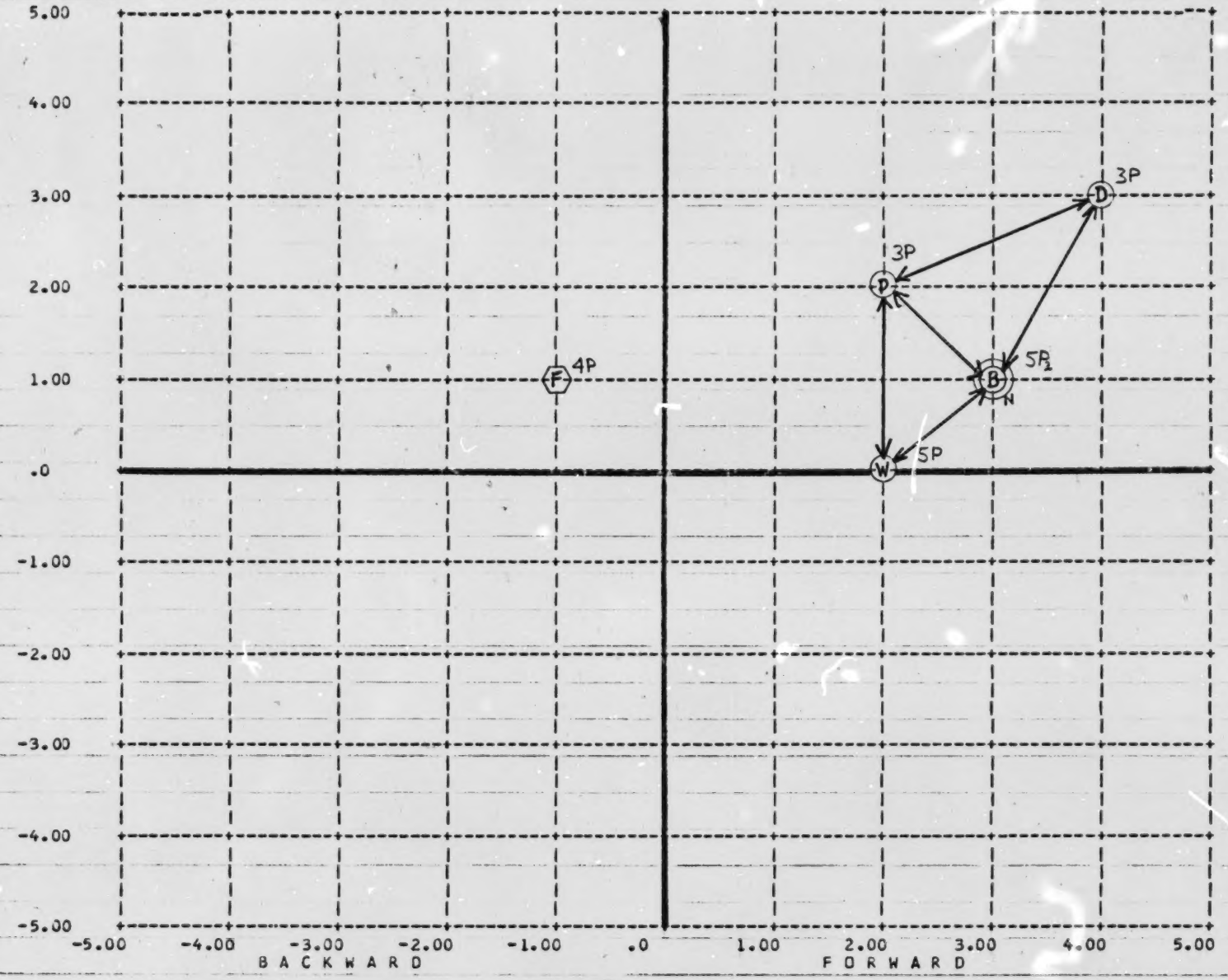


30

12

Intruction Network: E → A
O → F
D → —
A → E
J → —
F → O

T1-8
Mel



31

Interaction Network: (BN) → P D W (B)

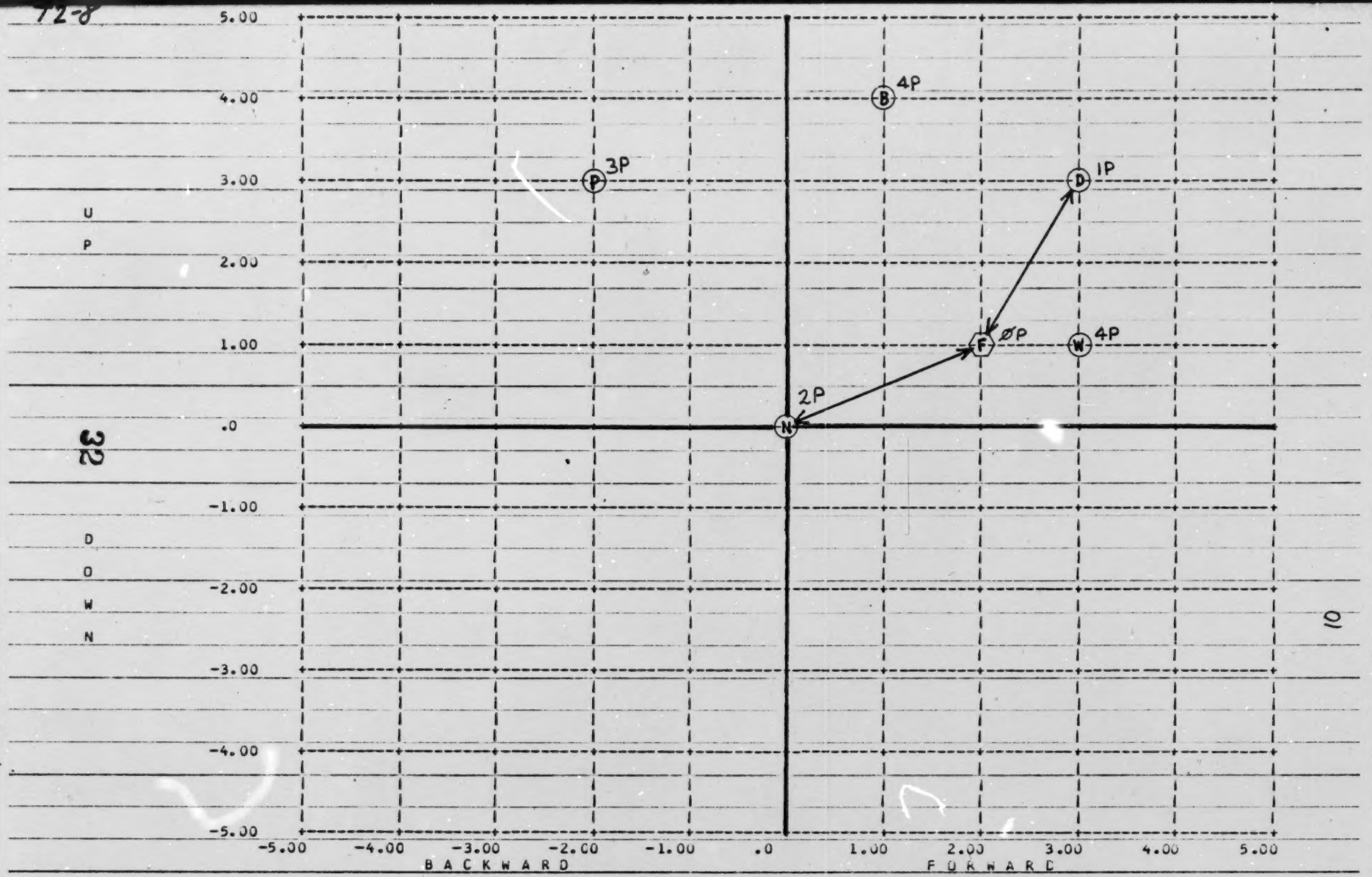
(B) → (BN) P D W

P → (BN) D W (B)

D → (BN) P (B)

W → (BN) P (B)

72-8


5.00
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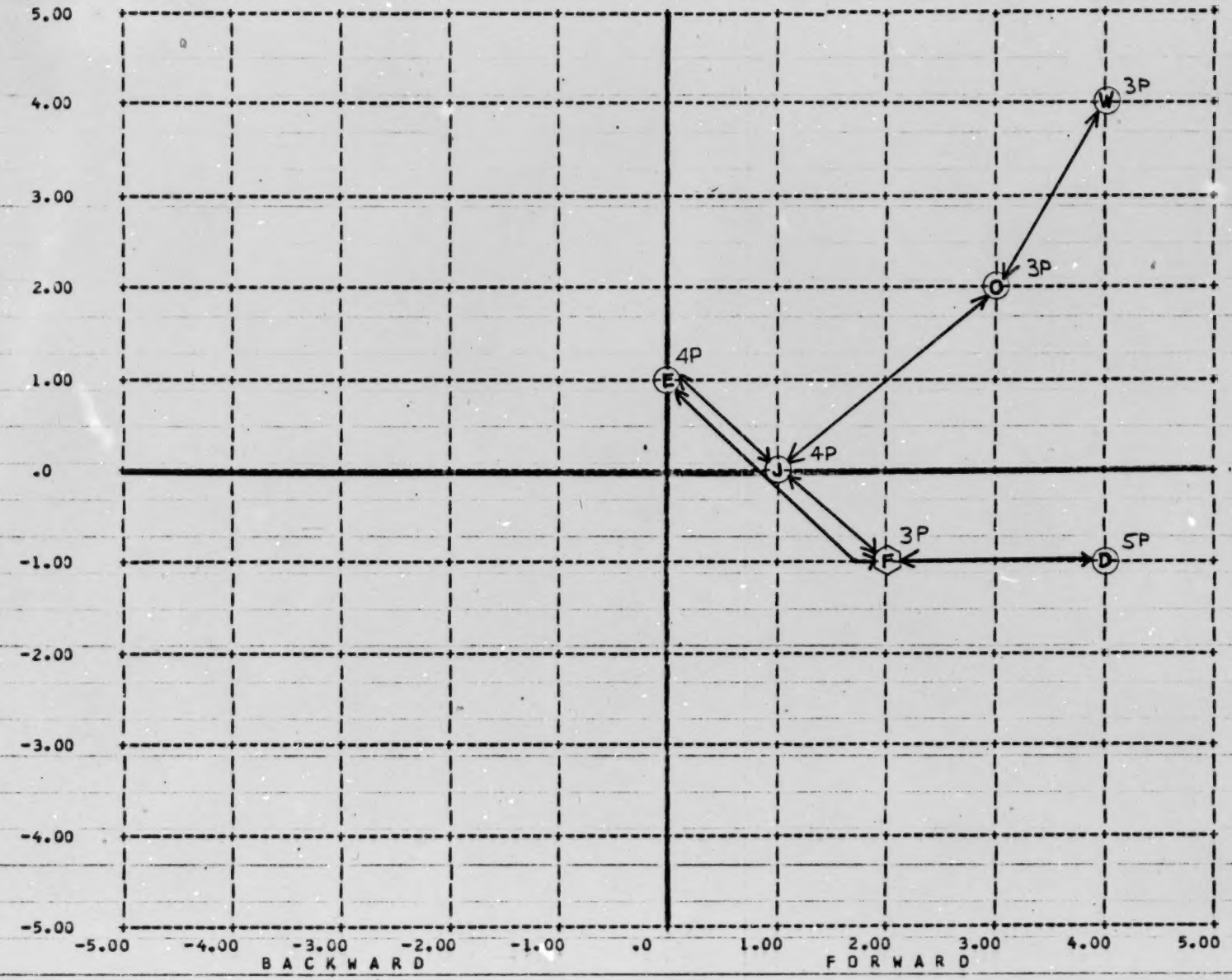
-1.00
-2.00
-3.00
-4.00
-5.00
UP
DOWN
-5.00
-4.00
-3.00
-2.00
-1.00
.0
1.00
2.00
3.00
4.00
5.00
BACKWARD
FORWARD
B 4P
P 3P
D 1P
F øP
W 4P
N 2P

32

10

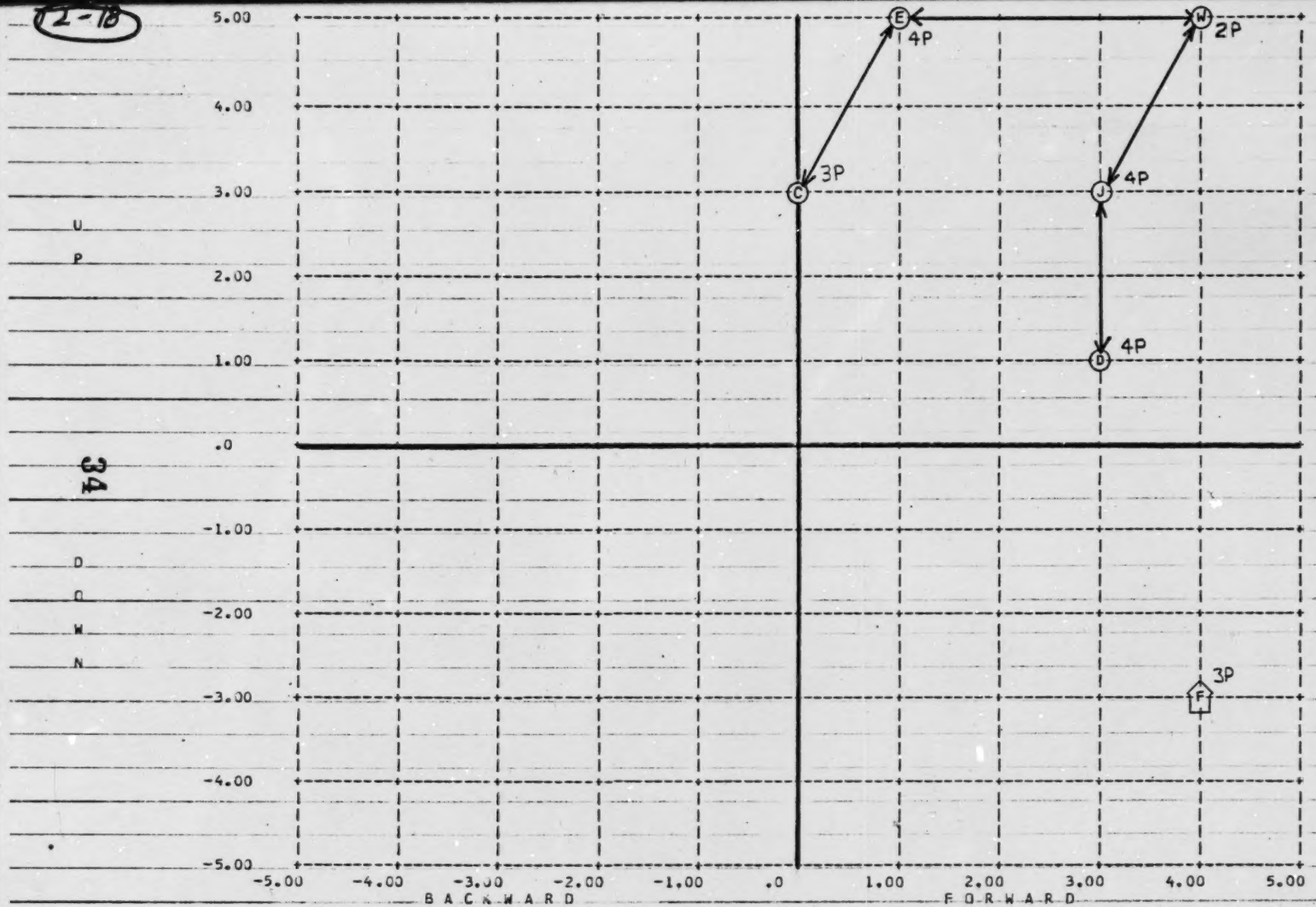
T1-1P
Med



33

13

12-18

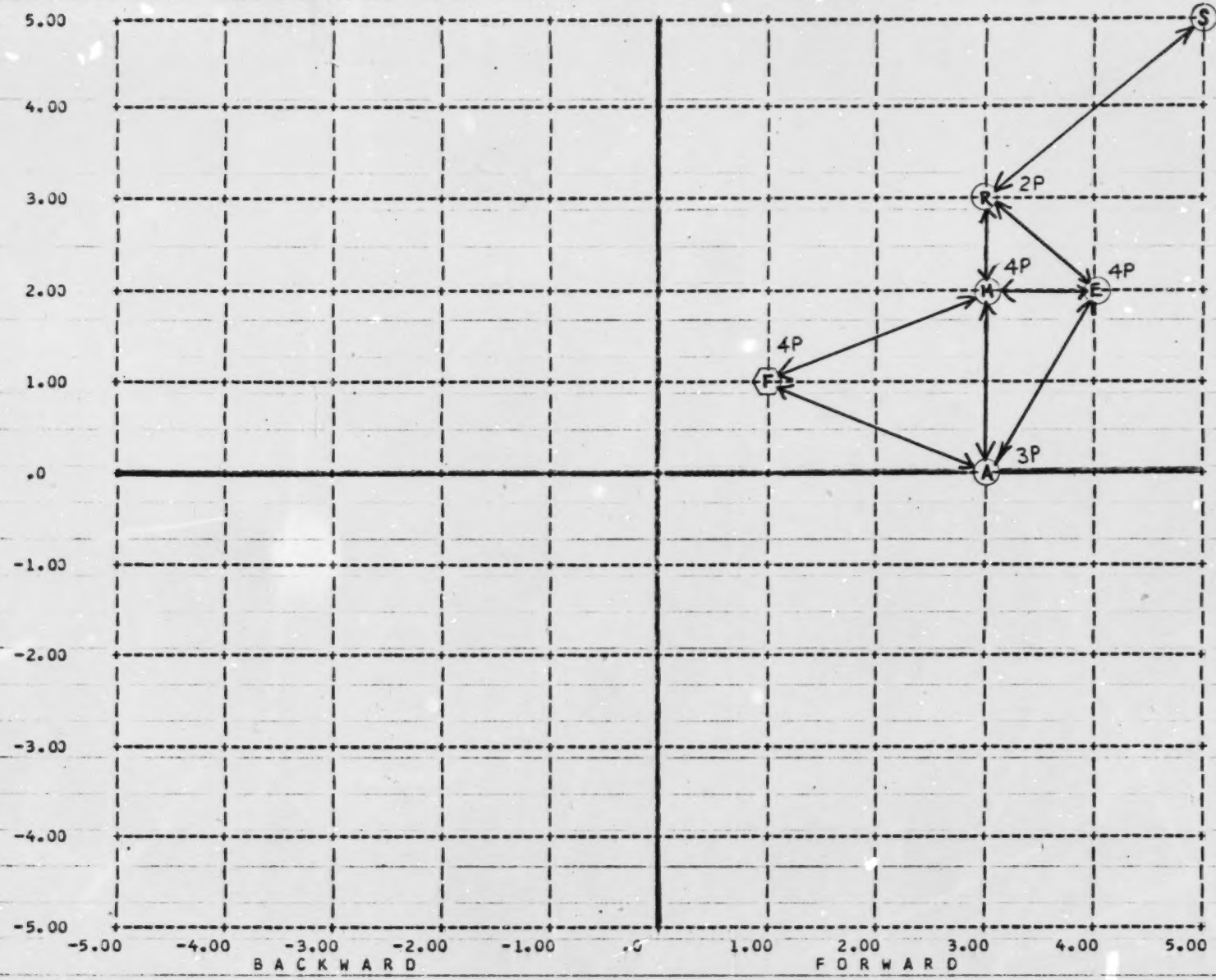


34

14

Intersection Network: W → J, E
C → E
E → C, W
D → J
J → D, W
F → —

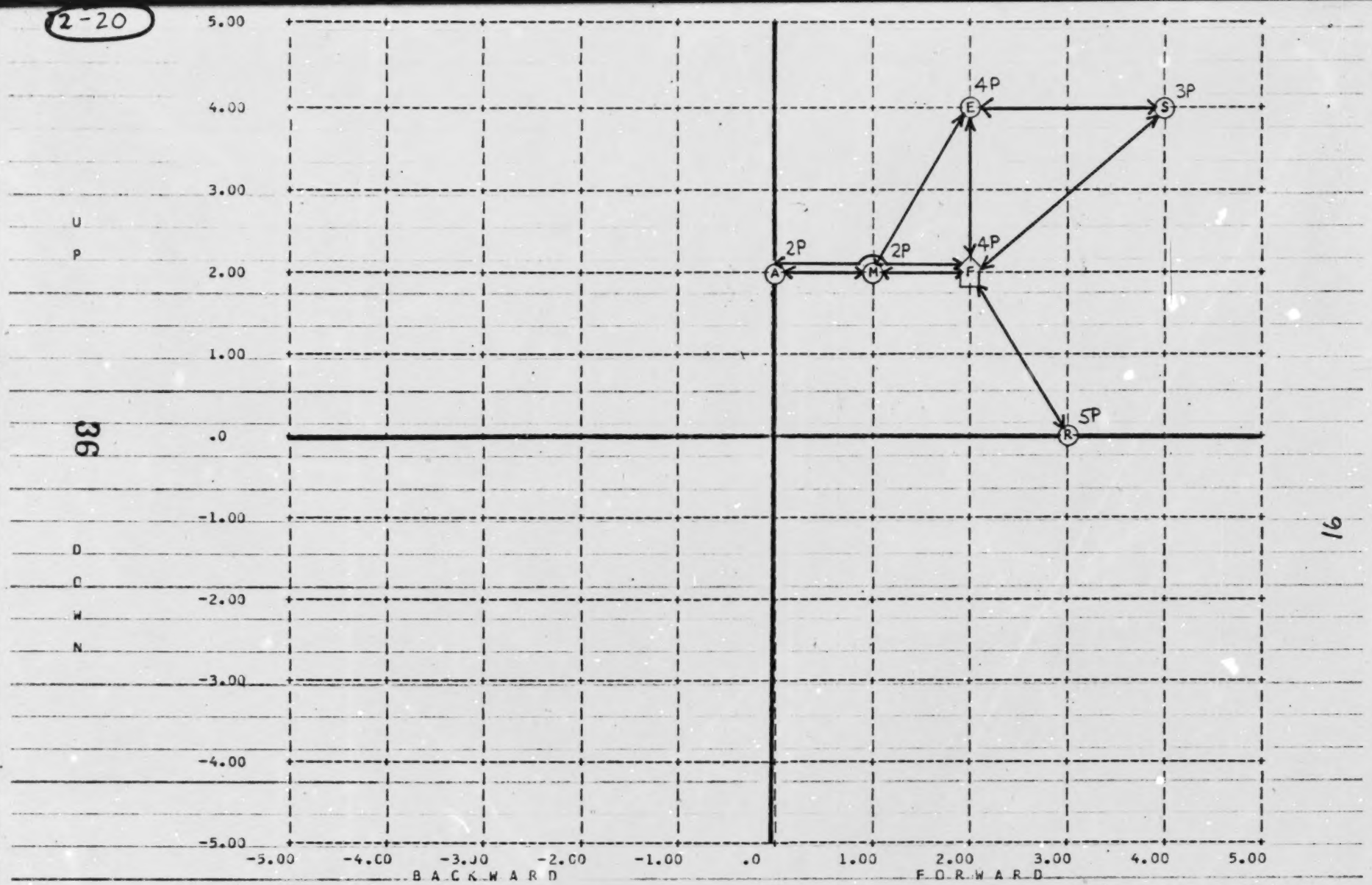
Ti-20
Med



35

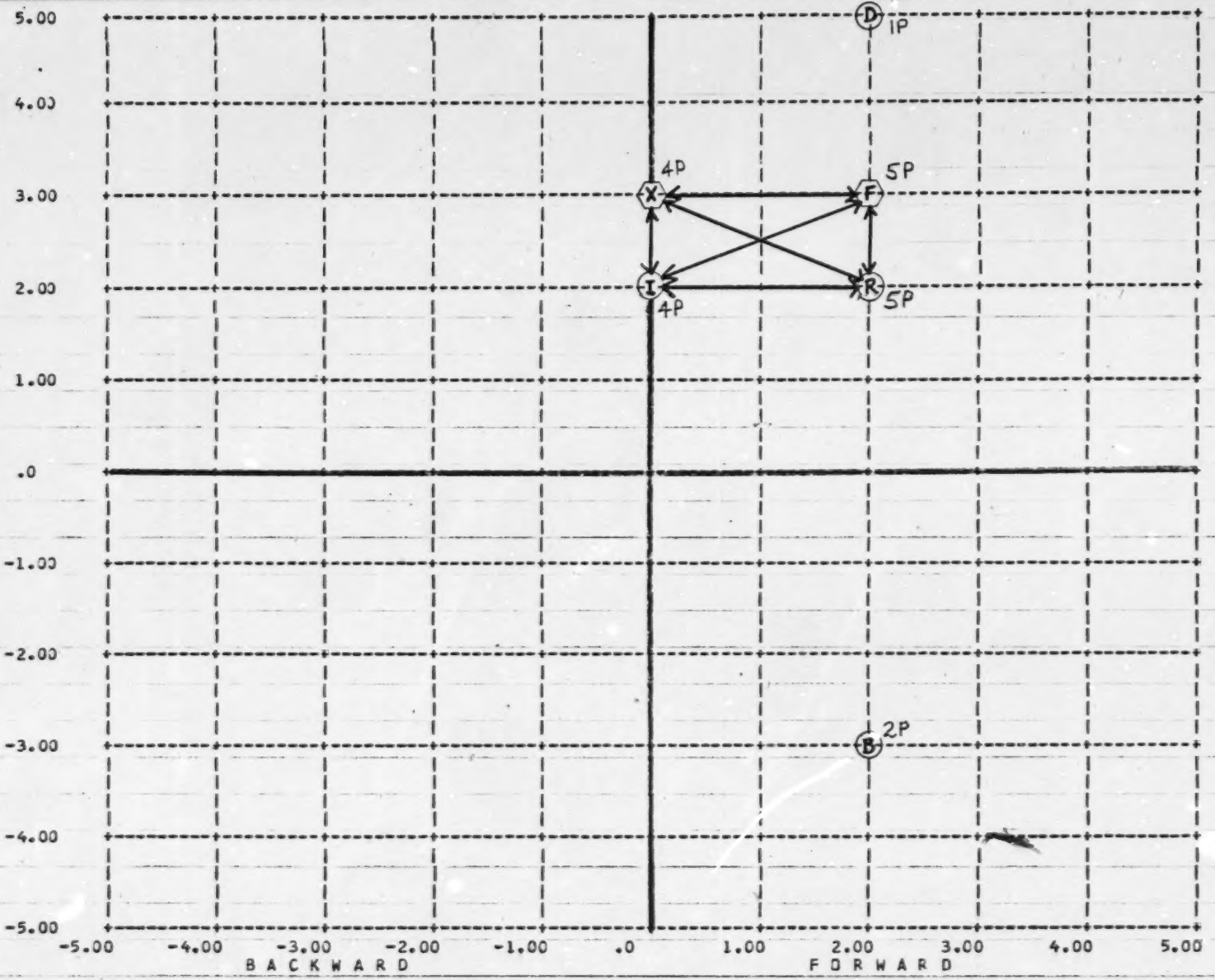
15

12-20



Interaction Network: A → F, M
S → F, E
E → F, M, S
R → F
M → F, E, A
F → M, R, E, S, A

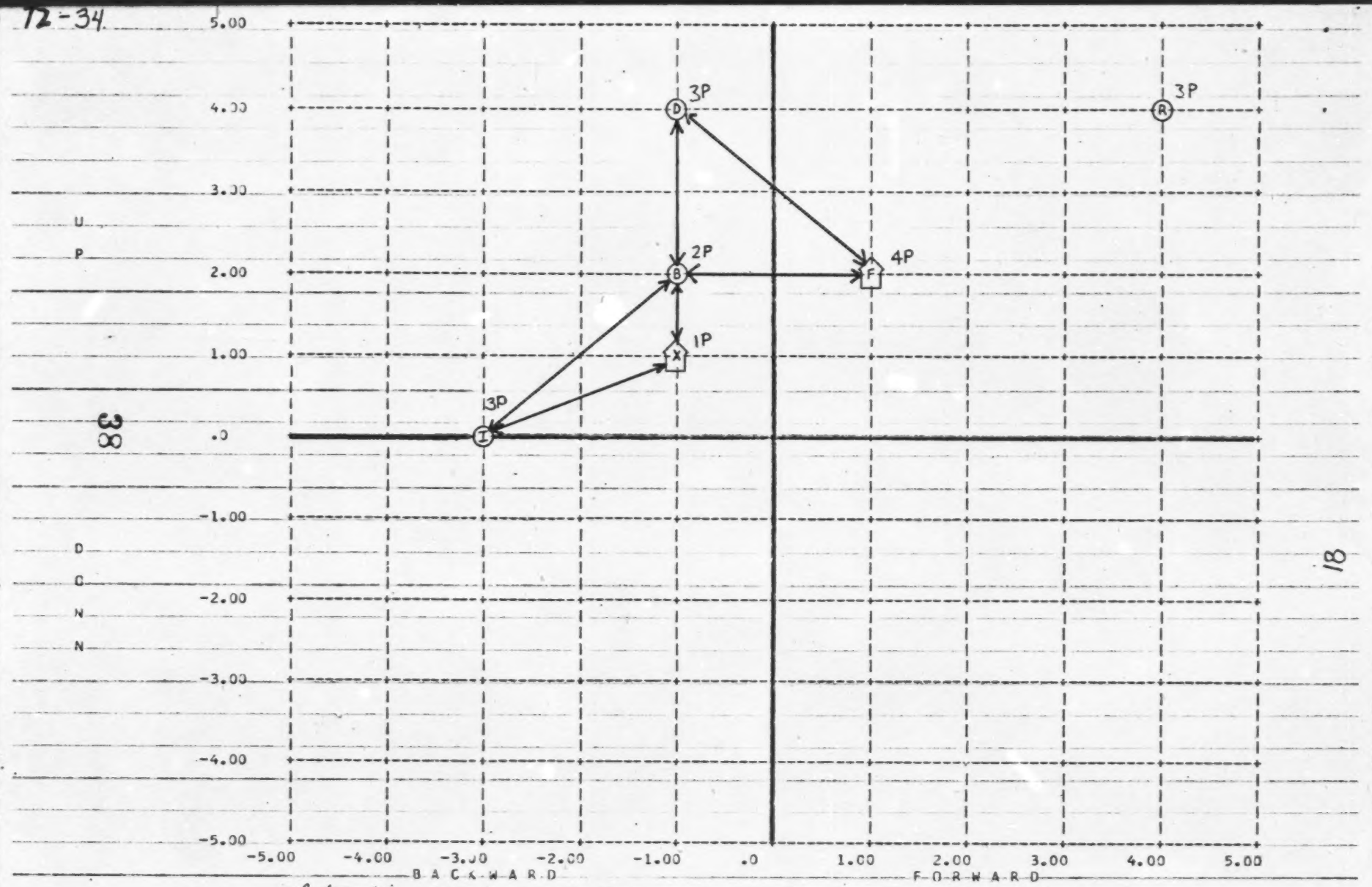
71-34
Med



37

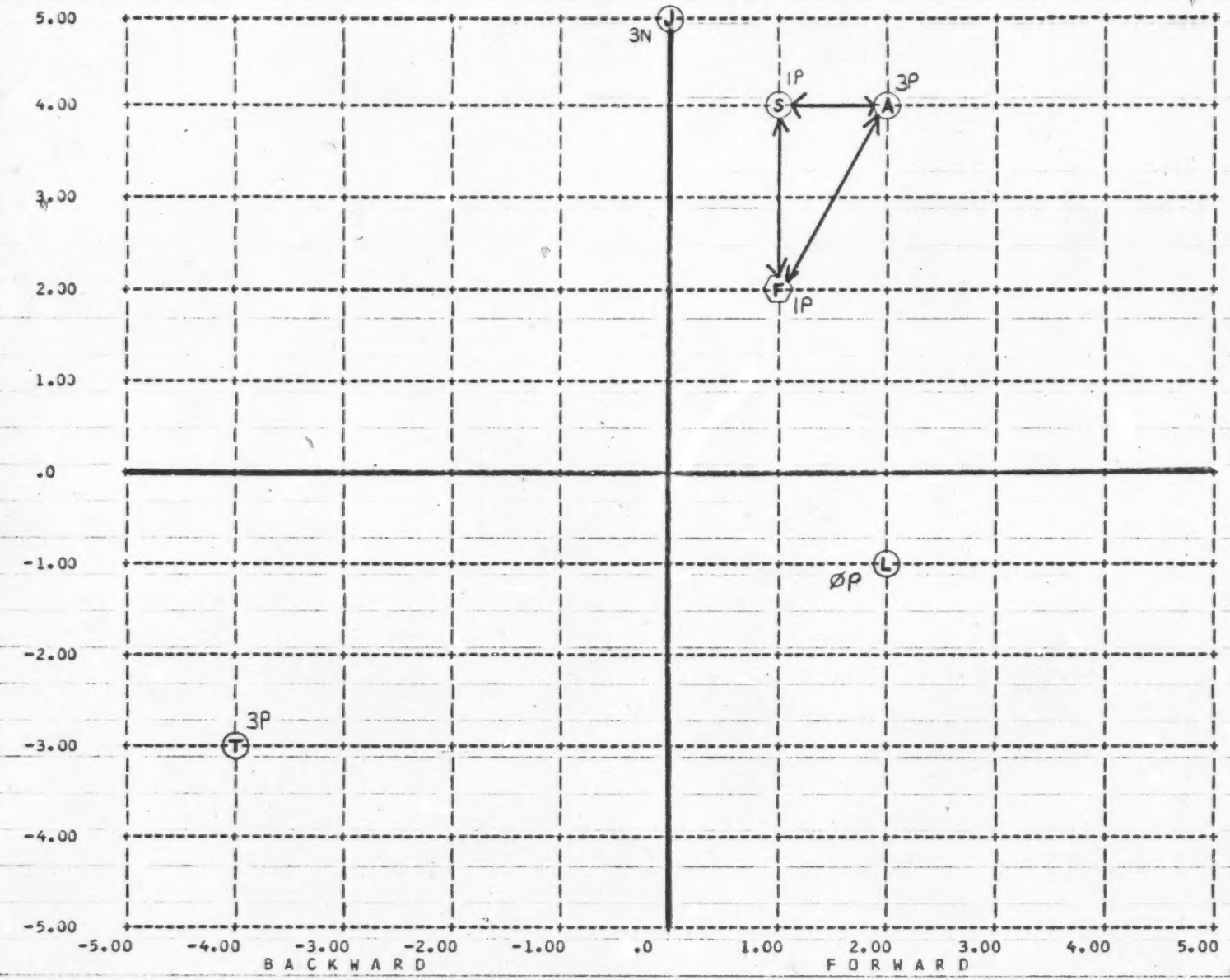
17

12-34



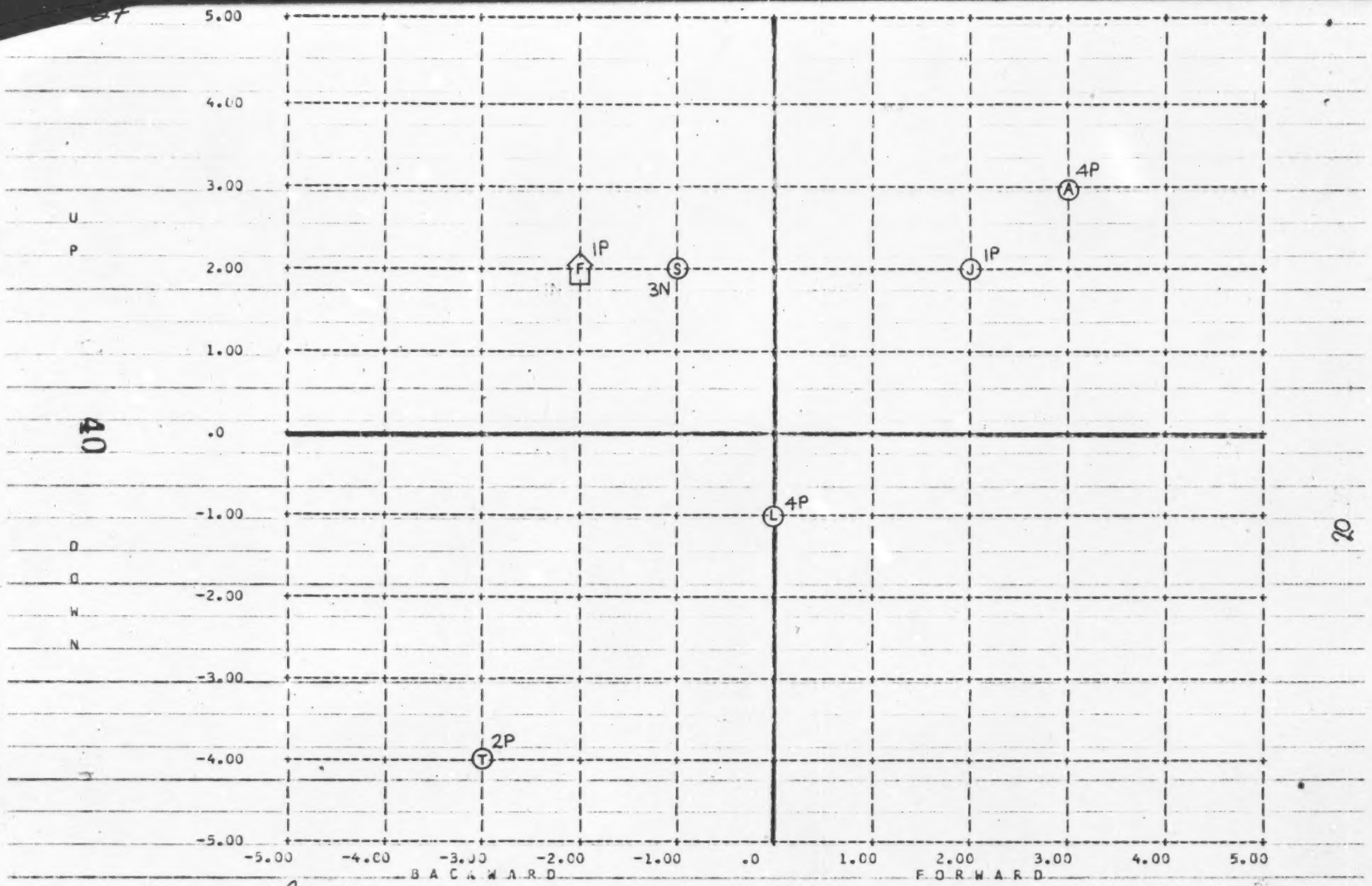
Interaction Network: I → X, B
B → F, X, D, I
R → ___
D → F, B
X → B, I
F → D, B

T1-37
Med



39

19



Interaction Network: T
S
L
A
J
F